

Bangladesh Sweden Polytechnic Institute, Kaptai
 Dept of Computer Technology
Semester Plan

Semester : 7th
 Subject code : 8572
 Subject Name : Multimedia and Graphics
 Name of Teacher : Shajeda Yeasmin
 Designation : Junior Instructor (Computer)

Week	Date	Topic No	Topic Details	Theory Class	Practical Class	Class Test	Quiz Test
WEEK-1		1.1-1.4	1.1 State multimedia and multimedia systems. 1.2 Describe the history of multimedia. 1.3 Classify multimedia. 1.4 1.4 Mention the field of application of multimedia	T1			
		1.5-1.6	1.5 Describe the benefits of multimedia in key areas (Training, sales, communications, medical). 1.6 Describe the problems of multimedia (based on investment cost, technical barriers, social & psychological barriers and legal problems).	T2			
		1	Identify the hardware of multimedia systems.		P1		
WEEK-2		2.1-2.3	2.1 List the Hardware & Software used in a Multimedia System. 2.2 Define multimedia studio. 2.3 Describe the industrial standards and specifications of a typical multimedia configuration.	T3			
		2.4-2.6	2.4 Describe the importance of "Plug and Play" revolution and MMX (Multimedia extension) technology. 2.5 Describe the important features of different categories of multimedia Software. 2.6 Describe different types of development tools for multimedia applications.	T4			
		2	Prepare the general specifications of a typical multimedia system.		P2		

WEEK-3		3.1-3.5	3.1 Mention the components of a multimedia system 3.2 Describe the architecture of a multimedia system 3.3 Describe the function of basic delivery system of multimedia platforms. 3.4 Describe the input subsystem functions with block diagram. 3.5 Describe the output processing subsystem with block diagram.	T5			
			QUIZE TEST ON CHAPTER(1—3)	T6			
		3	Identify the hardware with external features, settings and connections of sound equipment.		P3		
WEEK-4		4.1-4.3	4.1 Define discrete and continuous media. 4.2 Describe the discrete media process system in multimedia. 4.3 Define sampling, sampling interval, quantization and quantization error. .	T7		CT-1	
		4.4-4.6	4.4 Describe the digitizing process of audio & video signal. 4.5 Define Vectorisation. 4.6 Describe the steps of vectorization.	T8			
		4	Work with digital video playbacks, recording and editing software for multimedia and write a report.		P4		

WEEK-5		5.1-5.4	5.1 Define Text & Image 5.2 Describe the importance of text in multimedia 5.3 Mention the general features of different types of images used in computer application. 5.4 Describe the image data representation in multimedia system.	T9			
		5.5-5.7	5.5 Describe RGB and CMY color model. 5.6 State compression & image compression. 5.7 Describe the lossless image compression technic (Run length coding)	T10			
		5	Manipulate and process sound files using different software packages.		P5		
WEEK-6		5.8-5.9	5.8 Describe the lossy image compression technic (Cosine Transform based coding) 5.9 Mention the important features of Bitmap, JBIG and JPEG	T11			
			CLASS TEST ON CHAPTER(4---6)	T12		CT-2	
		6	Input and use sounds in multimedia applications.		P6		
WEEK-7		6.1-6.3	6.1 Mention the importance of audio in multimedia application. 6.2 Describe the file formats to store digital audio and MIDI data. 6.3 Describe the audio data representation in multimedia system	T13			
		6.4-6.6	6.4 Describe the configuration of sound system with block diagram. 6.5 Describe the function of Musical Instrument Digital Interface (MIDI) in multimedia system. 6.6 Describe the important aspects of audio compression	T14			
		7	Work with digital video recording and editing from VCRs/Laser disk player/Video camera using appropriate multimedia software.		P7		

WEEK-8		7.1-7.3	7.1 Mention the importance of sound processing in multimedia development. 7.2 Mention the imperfections of sound processing. 7.3 Define destructive and non-destructive sound processing	T15			
		7.4-7.6	7.4 List different components of sound recording system. 7.5 State the important aspects of hardware and software for sound recording. 7.6 List different sound recording software	T16			
		8	Develop simple multimedia software for educational purpose.		P8		
WEEK-9		7.7-7.9	7.7 Differentiate between monophonic and stereo recording. 7.8 Mention the problems in digital recording process. 7.9 Describe the disk space requirements for digital recording.	T17			-
		8.1-8.3	8.1 Mention the importance of video data in multimedia application. 8.2 Describe the planning stages for video incorporation into a multimedia project. 8.3 Describe the important aspects of converting video for the computer.	T18			
		9	Write a program to draw a line using pixel function only.		P9		
WEEK-10		8.4-8.6	8.4 Describe the configuration for video system with block diagram. 8.5 Describe different types of video compression technic. 8.6 Mention the important features of MPEG.	T19			
		9.1-9.5	9.1 List the multimedia equipment for video processing. 9.2 Describe video capture and playback system. 9.3 List different video recording equipment & video recording software. 9.4 State the important features of hardware and software for video recording. 9.5 Describe the file formats for saving video information.	T20			
		10	Write a program to draw a circle using pixel function only.		P10		

WEEK-11			CLASS TEST ON CHAPTER(7---9)	T21			
		10.1-10.5	10.1 Define Computer graphics 10.2 Define Pixel, Resolution, Raster & Aspect ratio 10.3 Define Object Space, Image Space & Image Processing. 10.4 Describe Raster Scan Graphic Display 10.5 Describe Random Scan Graphic Display	T22			
		11	Write a program to increase/ decrease the contrast of an image using an appropriate language.		P11		
WEEK-12		11.1-11.3	11.1 Define Scan Conversion. 11.2 Describe the point and line scan Converting process. 11.3 Describe the circle and ellipse scan Converting process.	T23			
		11.3-11.4	11.3 Describe the circle and ellipse scan Converting process. 11.4 Mention Line Drawing Algorithms	T24			
		12	Write a program to transform an image using an appropriate language.		P12		
WEEK-13		12.1-12.3	12.1 Define transformation, translation, rotation, scaling and magnification. 12.2 Describe Basic geometric transformation. 12.3 Describe the co-ordinate transformations	T25			
		12.4-12.6	12.4 Define composite transformation and instance transformation. 12.5 Mention the matrix description of the basic transformation. 12.6 Define projection, projection plane.	T26			
		13	REVIEW CLASS		P13		

WEEK-14		13.1-13.3	13.1 Define WCS, VCS, Window, Viewport, Viewing Transformation 13.2 Describe Two- Dimensional viewing 13.3 Define clipping	T27			
		13.4-13.6	13.4 Mention Different types of clipping 13.5 Mention different Line Clipping Algorithms 13.6 Describe Polygon Clipping	T28			
		14	REVIEW CLASS		P14		
WEEK-15			CLASS TEST ON CHAPTER(10---13)				
			REVIEW CLASS ON CHAPTER(1---6)				
			REVIEW CLASS ON CHAPTER(7---13)				

REFERENCE BOOKS

1. Multimedia in practice
 - Judith Jeffcoate
2. Multimedia, Sound & Video
 - Jose Lozano
3. Computer graphics
 - Schaum's Out lines Series